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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/586,296

05/25/2007

Uwe Apel

10191/4315

4018

26646 7590 06/08/2009
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EXAMINER

HERNANDEZ, NELSON D

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

06/08/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--|------------------------------------|--|
| Office Action Summary | Application No. 10/586,296 | Applicant(s) APEL ET AL. | |
| | Examiner Nelson D. Hernández Hernández | Art Unit 2622 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Examiner acknowledges the preliminary amendments made to the claims. **Claims 1-13** have been cancelled. **Claims 14-26** have been newly added.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: reference numbers **33** and **34**. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Yukawa et al., US Patent 2002/0163589 A1.**

6. **Regarding claim 14, Yukawa et al. discloses an optical module (See fig. 1: 10) comprising:**

a base plate (*Fig. 1: 11*); and

an image recorder including optical (*optical unit 15 as shown in fig. 1*) and electronic components (*image pickup element 18, chip part 16, connector 17 and signal processing circuit package 13 as shown in fig. 1*), all of the components of the image recorder being situated on the base plate (*Note as shown in fig. 1 that all the components of the image recorder are located on the base plate*) (*Page 2, ¶ 0028-0029*).

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7. **Regarding claim 15, Yukawa et al.** discloses that the components of the image recorder are situated on a first main surface of the base plate (*Note in fig. 1, that the image pickup element 18 and the processing circuit package 13 are located on a first main surface of the base plate*), and further comprising a lens system (*optical unit 15 as shown in fig. 1*), assigned to the image recorder, situated on a second main surface of the base plate (*As shown in fig. 1, the optical unit is located on a second surface that is opposite to the first surface*).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yukawa et al., US Patent 2002/0163589 A1 in view of Onmiyachi, JP 08-84277 A.**

10. **Regarding claim 16,** Yukawa et al. does not explicitly disclose that the base plate and the lens system are embedded into a sealing compound.

However, **Onmiyachi** teaches an optical module (*See fig. 1*) for an on-vehicle camera, comprising a base plate (*Fig. 1: 2*), and image recorder including optical (*optical system 1 as shown in fig. 1*) and electronic components (*image sensor (not shown in figures but discussed in page 2, ¶ 0002 and ¶ 0005) and*

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signal processing means included in the base plate 2. See English Machine Translation, page 2, ¶ 0002, page 3, ¶ 0014; page 4, ¶ 0017; page 7, ¶ 0037), all of the components of the image recorder being situated on the base plate (As shown in fig. 1 the components of the image recorder are located on the base plate 2 (See *English Machine Translation, page 2, ¶ 0002, page 3, ¶ 0014; page 4, ¶ 0017; page 7, ¶ 0037*)). Onmiyachi further teaches embedding the base plate 2 and the lens system 1 using a resin material (*resin-molding object 20 as shown in fig. 1*) with the purpose of protecting the optical module against humidity and vibrations (See *English Machine Translation, pages 4-5, ¶ 0018-0024*).

Therefore, taking the combined teaching of Yukawa et al. in view of Onmiyachi as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of embedding the optical components and the base plate including the electrical components using a resin material as discussed in Onmiyachi to modify the teaching of Yukawa et al. to have the base plate and the lens system are embedded into a sealing compound. The motivation to do so would have been to protect the optical module against humidity and vibration as suggested by Onmiyachi (See *English Machine Translation, page 4, ¶ 0019 and ¶ 0022*).

11. **Regarding claim 17**, Yukawa et al. does not explicitly disclose the optical module has a holding element for mounting the optical module on a vehicle part.

However, as discussed in claim 16, **Onmiyachi** teaches an optical module (See fig. 1) to be used in an on-vehicle camera, the optical module comprising optical and electronic components embedded by a resin material (*See discussion of the particulars with regards to claim 16*), wherein the optical module has a holding element (*Fig. 1: 21*) for mounting the optical module on a vehicle (*It is noted that the optical module comprises holes for holding in a particular place of a vehicle said optical module is attached to the casing 21 using screws 21a. See English Machine Translation, page 4, ¶ 0020*). Onmiyachi further teaches that the casing can be eliminated and instead using having a resin molding (24 as shown in fig. 2) being held by seats (*Fig. 4: 106; see English Machine Translation, page 5, ¶ 0027-0028*) (*This suggests having a mounting element for mounting the optical module on a vehicle part since the resin molding is integrally molded to be attached in the seats, thus the shape of the resin molding can also be interpreted as the holding element for mounting the optical module on a vehicle part as claimed*).

Therefore, taking the combined teaching of Yukawa et al. in view of Onmiyachi as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of having a particular structure to allow the optical module to be mounted on a vehicle as discussed in Onmiyachi to modify the teaching of Yukawa et al. to include a holding element for mounting the optical module on a vehicle part. The motivation to do so would have been to allow a driver of a vehicle to check the

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field of view behind the vehicle, thus improving the safety while driving while allowing the camera to be maintained in place while the vehicle is moving.

12. **Regarding claim 18**, the combined teaching of Yukawa et al. in view of Onmiyachi as discussed and analyzed in claim 17 further teaches that the holding element is integrally molded with the optical module (*Since as taught in Onmiyachi, the casing can be eliminated and instead using having a resin molding (24 as shown in fig. 2) being held by seats (Fig. 4: 106; see English Machine Translation, page 5, ¶ 0027-0028) which suggests that the holding element is integrally molded with the optical module as claimed since the resin molding is integrally molded with the optical module to be attached in the seats*). Grounds for rejecting claim 17 apply here.

13. **Claims 19, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yukawa et al., US Patent 2002/0163589 A1 in view of Hoshino et al., US Patent 7,375,757 B1.**

14. **Regarding claim 19**, Yukawa et al. does not explicitly disclose a shield for shielding against electromagnetic interference radiation.

However, **Hoshino et al.** discloses an optical module (*See fig. 3B*) comprising an optical unit (*See fig. 3B: 12*) mounted on a first side of a base plate (*Fig. 3B: 4*) and an image pickup device (*See fig. 3B: 11*) mounted on a second side of said base plate (*See fig. 3B*) by using a sealing resin (*Fig. 3B: 17*) and wherein a shielding layer (*Fig. 3B: 22*) is formed on the back of the imaging

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device to prevent a ghost effect in the images which is caused by light receipt from the back of the imaging device (*Col. 4, lines 27-37; col. 7, lines 52-65*).

Hoshino et al. further teaches that the shielding layer can be alternatively obtain by applying a black material (*black ink*) to the resin used in the back of the imaging device thus obtaining a black resin; and also using having the sealing resin 17 made of such material (*Col. 8, lines 25-47*).

Therefore, taking the combined teaching of Yukawa et al. in view of Hoshino et al. as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of using a sealing material used to embed the imaging device to the base plate, the sealing material having a particular material integrated to provide shielding of the imaging device form light entering from the back as discussed in Hoshino et al. to modify the teaching of Yukawa et al. to include a shield for shielding against electromagnetic interference radiation. The motivation to do so would have been to prevent a ghost effect in the images caused by light receipt from the back of the imaging device as suggested by Hoshino et al. (*Col. 4, lines 27-37; col. 7, lines 52-65*).

15. **Regarding claim 20**, the combined teaching of Yukawa et al. in view of Hoshino et al. as discussed and analyzed in claim 19 further teaches that the shield is embedded into a sealing compound (*Hoshino et al. teaches that the shielding layer can be alternatively obtain by applying a black material (black ink) to the resin used in the back of the imaging device thus obtaining a black resin;*

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and also using having the sealing resin 17 made of such material while obtaining similar results (Col. 8, lines 25-47)). Grounds for rejecting claim 19 apply here.

16. **Regarding claim 22**, the combined teaching of Yukawa et al. in view of Hoshino et al. as discussed and analyzed in claim 19 further teaches that the shield includes particles embedded into a sealing compound (*Hoshino et al. teaches that the shielding layer can be alternatively obtain by applying a black material (black ink) to the resin used in the back of the imaging device thus obtaining a black resin; and also using having the sealing resin 17 made of such material while obtaining similar results (Col. 8, lines 25-47). This teaches that the shield includes particles embedded into a sealing compound (wherein the black ink is being interpreted as the particles embedded in the sealing compound))*). Grounds for rejecting claim 19 apply here.

17. **Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yukawa et al., US Patent 2002/0163589 A1 in view of Hoshino et al., US Patent 7,375,757 B1 as applied to claim 19 and further in view of Yunoki et al., US Patent 4,686,964.**

18. **Regarding claim 21**, claim 22 is written as a Markush type claim by using the expression “includes one of” in the limitations “...the shield includes one of a net and a screen embedded into a sealing compound”, meeting one species of a genus family anticipates the claimed subject matter. “A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the

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claimed genus.” The species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

The combined teaching of Yukawa et al. in view of Hoshino et al. fails to teach that the shield includes one of a net and a screen embedded into a sealing compound.

However, **Yunoki et al.** teaches an optical module (*See fig. 4*) comprising image pickup device (*See fig. 4: 17*) and a lens (*Fig. 4: 16*) in a casing that is located on a plate (*Fig. 4: 20*). Yunoki et al. further teaches using a shield made of a net embedded to a bonding material on the plate with the purpose of protect the optical module from electromagnetic noises (*See col. 3, lines 5-45*).

Therefore, taking the combined teaching of Yukawa et al. in view of Hoshino et al. and further in view of Yunoki et al. as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of embedding a net to a bonding material to for an electromagnetic shield as taught in Yunoki et al. to modify the teaching of Yukawa et al. and Hoshino et al. to have the shield including a net embedded into a sealing compound as an alternative to the shielding element in Hoshino et al. The motivation to do so would have been to protect the optical module from electromagnetic noises as suggested by Yunoki et al. (*See col. 3, lines 5-45*).

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19. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yukawa et al., US Patent 2002/0163589 A1 in view of Onmiyachi, JP 08-84277 A and further in view of Bauer et al., US Patent 6,672,745 B1.

20. Regarding claim 23, the combined teaching of Yukawa et al. in view of Onmiyachi fails to teach that the holding element has a cup-shaped design.

However, **Bauer et al.** teaches an optical module (*See fig. 9*) to be used on a vehicle (*See figs. 4-7*), the optical module comprising a lens (*Fig. 9: 56*) and an imaging device (*Fig. 9: 60*) mounted on a base plate (*Fig. 9: 363*), wherein the optical module has a cup-shaped holding element (*See fig. 9: 360*) for mounting the optical module to the rear window (*Fig. 9: 332*) of the vehicle. Bauer further teaches that the holding element 360 is design to separate the imaging device field of view from light from the infrared lights (*360 and 362*) thus preventing unwanted light from reaching the imaging device (*Col. 11, line 13 – col. 12, line 6*).

Therefore, taking the combined teaching of Yukawa et al. in view of Onmiyachi and further in view of Bauer et al. as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of having an optical module with a holding element having a cup shape that would allow proper support to the vehicle while preventing unwanted light to reach the imaging device as taught in Bauer et al. to modify the teaching of Yukawa et al. and Onmiyachi to have the holding element shaped as a cup. The motivation to do so would have been to provide proper support to the

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vehicle while preventing unwanted light to reach the imaging device as suggested by Bauer et al. (*Col. 11, line 44 – col. 12, line 6*).

21. **Regarding claim 24**, the combined teaching of Yukawa et al. in view of Onmiyachi and further in view of Bauer et al. as discussed and analyzed in claim 23 further teaches that the holding element includes a scattered light shutter (*As discussed in claim 23 above, Bauer et al. teaches that the holding element is shaped to prevent unwanted light (i.e. sun light or light from the brake lights) from reaching the imaging device. Bauer further teaches that the walls 380 surrounding the optical module are opaque and are provided to prevent glare from reaching the lens (Col. 25, line 13 – col. 12, line 6). This teaches that the holding element includes a scattered light shutter as claimed since the baffles are used to prevent scattered light from reaching the lens of the imaging device*).

22. **Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yukawa et al., US Patent 2002/0163589 A1 in view of Onmiyachi, JP 08-84277 A and further in view of Shiau, US 2004/0149885.**

23. **Regarding claim 25**, the combined teaching of Yukawa et al. in view of Onmiyachi fails to teach that the sealing compound has a thread for accommodating the lens system.

However, **Shiau** teaches an optical module (*See fig. 2*) comprising an lens system (*lens barrel 44 having a lens 80 as shown in fig. 2*) and an imaging device (*Fig. 2: 50*) mounted to a plate (*Fig. 2: 46*), wherein the lens system and

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the plate are embedded into a molded body (*which the Examiner is reading as the sealing compound since Shiau teaches that the injection molded body 42 is made of an industrial plastic by way of injection molding to seal and surround the image sensor*), wherein said molded body has threads (*Fig. 2: 72*) for accommodating the lens system which also has threads (*Fig. 2: 74*) so that the imaging device can be precisely positioned and aligned with the lens barrel 44 in order to precisely receive optical signals (*Page 1, ¶ 0013-0016*).

Therefore, taking the combined teaching of Yukawa et al. in view of Onmiyachi and further in view of Shiau as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of having an optical module having the lens system and the plate are embedded into a molded body having threads to adjust the position of the lens system as taught in Shiau to modify the teaching of Yukawa et al. and Onmiyachi to include a thread in the sealing compound for accommodating the lens system. The motivation to do so would have been to precisely position and align the imaging device with the lens system in order to precisely receive optical signals as suggested by Shiau (*Page 1, ¶ 0016*).

24. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yukawa et al., US Patent 2002/0163589 A1 in view of.

25. Regarding claim 26, the combined teaching of Yukawa et al. in view of Onmiyachi fails to teach a container for accommodating a desiccant.

However, Kato teaches a lens system (*See fig. 1*) for use in a TV camera (*Col. 2, lines 56-64*), wherein the lens system comprises a container (*Fig. 1: 20*) for accommodating a desiccant (*Fig. 1: 26*) with the purpose of dehumidifying the interior of the lens system to prevent lenses from getting fogged (*Col. 1, lines 6-10; col. 2, line 56 – col. 3, line 9*).

Therefore, taking the combined teaching of Yukawa et al. in view of Kato as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of having a container for accommodating a desiccant to dehumidify the interior of the lens system as taught in Kato to modify the teaching of Yukawa et al. to include a container for accommodating a desiccant to the optical module. The motivation to do so would have been to dehumidify the interior of the lens system to prevent lenses from getting fogged as suggested by Kato (*Col. 1, lines 6-10; col. 2, line 65 – col. 3, line 9*).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernández Hernández whose telephone number is (571)272-7311. The examiner can normally be reached on 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nelson D. Hernández Hernández/
Examiner, Art Unit 2622
June 4, 2009